

Why does it seem that Russell Lake is always full?

Lake levels at Hartwell and Thurmond often fluctuate more than at Russell, leading people to believe Russell is always full. At 5 feet, Russell Lake’s conservation storage

(defined in FAQ section) is considerably less than Hartwell’s, at 35 feet, and Thurmond’s, at 18 feet. Russell Dam was designed after the other two lakes had satisfied the conservation storage needs on the Savannah River and was designed to operate efficiently by minimizing the drawdown or lowering of the lake, thus Russell lake levels are always maintained within 5 feet of full pool (top of the conservation pool).

For more information about lake level management, current lake levels, historical data, etc., go to www.sas.usace.army.mil/hydrodat.htm. To request a copy of the “Savannah River Basin Fact Sheets,” contact the lake office nearest you or go to <http://www.sas.usace.army.mil/drought/dfactsheets.html>.

Lake Level Management

Changing lake levels is a sign of a lake doing its job. The amount of water released is based on conditions throughout the Savannah River Basin. The three lakes and dams are operated as a system of multipurpose projects, with consideration given to all authorized purposes - water supply, water quality, recreation, fish and wildlife management, hydropower, flood control, and downstream navigation. Hydrologists ("water resource managers") must balance these competing needs while also considering power contract commitments to the Southeastern Power Administration* (SEPA), expectant rainfall and runoff, hydrologic and climatologic factors, threats of floods or drought, downstream river conditions, and lake levels.

Under normal conditions, lake levels are maintained as close to their respective full pool level as possible, although lake levels may start falling in late summer, due to the typically low seasonal rainfall and high hydropower demands.

October through December, the full pool levels at Thurmond and Hartwell gradually decline to 4 feet below the summer full pool level to make room for heavy rains typical in the Upper Savannah River Basin during late winter and early spring. At Russell Lake, no reduction of lake level is necessary to provide additional flood storage. Water released (through hydropower generation) also helps to maintain water quality and water supply on the lower Savannah River and supports downstream recreation and other activities. The typically heavy winter and spring rains replenish the lakes, returning levels to summer full pool in April.

Drought Management. During a drought, the Corps follows the *Savannah River Basin Drought Contingency Plan* — a management tool to help balance the negative impacts of a drought. The Corps must manage the all authorized proposes during a drought; however, priority is given to water supply and water quality. For a copy of the Drought Plan go to <http://water.sas.usace.army.mil/droughtplan/drought1.pdf>

FAQs

Q. What are the storage zones of the lakes?

A. There are three storage zones: conservation, flood control, and inactive. Conservation storage refers to the amount of “usable water” in a lake— water that can be used to meet the lakes authorized purposes. If a lake exceeds the conservation storage, it is in the flood control zone. Runoff from storms is temporarily stored in this zone and then released after the storm at a non-damaging rate. Below the conservation storage zone is the inactive storage zone. At Corps dams, water cannot be released from this zone through the turbines.

Q. What is full pool?

A. Full pool is the top of the conservation storage zone. In late spring and summer, full pool (commonly referred to as normal pool) is 330, 475, and 660 ft. msl for Thurmond, Russell, and Hartwell respectively. During the fall and winter, the top of the conservation storage zone at Thurmond and Hartwell is gradually reduced 4 feet to 326 and 656 ft. msl respectively.

Q. Can recreation be given a higher priority among the authorized purposes of the lakes?

A. Authorizing legislations mandate a balance among the authorized purposes. There is no priority among the purposes or one that “drives the train” at all times. However, at times one may have priority, such as flood control during flood conditions, or fish and wildlife during fish spawning, when lake levels are kept as stable as possible for about six weeks. In order for any specific purpose to be designated as a “higher” priority, Congress would have to change the existing authorizations.

What is Pumped Storage?

Pumped storage hydroelectricity is a method of storing and producing electricity to supply high-peak demands. At times of lower electrical demand, lower-priced electricity is used to pump water from Thurmond Lake back up into Russell Lake. When demand is higher, water is released back into Thurmond through the Russell turbines, generating hydroelectricity



Corps dams supply fresh water to communities and customers below Thurmond Dam, including the Savannah National Wildlife Refuge.



The floodgates at Hartwell and Thurmond dams have been opened in various years for flood control purposes. The floodgates at all three dams are opened periodically for maintenance inspections.

The dams and lakes of the Savannah River Basin have prevented more than \$148 million in flood damages.